ITEM:

SUBJECT: Lincoln Center Environmental Remediation Trust, Groundwater Treatment System, San Joaquin County

BOARD ACTION: *Consideration of NPDES Permit Renewal and Time Schedule Order*

BACKGROUND: As part of a settlement of legal proceedings in the United States District Court, Eastern District of California, the Lincoln Center Environmental Remediation Trust (Discharger) was created to manage environmental remediation activities at the Lincoln Center Site in the City of Stockton, San Joaquin County, California. The Discharger owns and operates a ground water extraction and treatment system to remove volatile organic compounds (VOCs), petroleum products, and lead from ground water. The treatment system is designed for a flow of 0.43 million gallons per day (mgd) of extracted groundwater, and operates at an average flow of 0.25 mgd. Effluent from the treatment unit is discharged to the storm sewer system that is owned and operated by San Joaquin County. The storm sewer system discharges to the Fourteen Mile Slough. Fourteen Mile Slough is part of the Sacramento-San Joaquin Delta (Delta) and both are waters of the United States. The discharge of treated groundwater was previously regulated by Waste Discharge Requirements (WDRs) Order No. 98-062, adopted by the Regional Board on 17 April 1998. This Order retains technology based effluent limitations for VOC's and petroleum products, and includes new water quality based effluent limitations for pesticides, arsenic, hexavalent chromium, copper, lead, mercury, zinc, barium, iron, manganese, specific conductance, and ammonia.

ISSUES:

- **Municipal and Domestic Supply (MUN) Beneficial Use**: Effluent from the treatment unit discharges to Fourteen Mile Slough. Fourteen Mile Slough is part of the Delta system, and the discharge contributes pollutants to the Delta. The point of discharge from the groundwater treatment plant to Fourteen Mile Slough is within the legal boundary of the Delta, and MUN is an existing use of the Delta. Although drinking water intakes are not currently in close proximity to the point of discharge, increasing population in the Central Valley and Stockton urban area will substantially increase the demands for drinking water. Studies conducted by the City of Stockton demonstrate that waters in proximity to the discharge are considered suitable for the MUN use and may be used for such use in the future. Regional Board staff has considered this information, and determined that any consideration to dedesignate Delta waters is not a reasonable alternative.

- **Consideration of Secondary Maximum Contaminant Levels (MCLs) in Establishing Effluent Limitations**: The proposed Order includes effluent limitations for iron, manganese, and specific conductance considering the MUN beneficial use and secondary MCLs from the Basin Plan chemical constituents objective. The Discharger commented that MCLs referenced by the chemical constituents objective apply to public water systems (i.e. water suppliers) and are intended only to apply to drinking water treatment facilities at the tap or point-of-use, not as receiving water objectives. The Discharger commented that it is

unnecessary and inappropriate to impose end-of-pipe effluent limits based on the recommended levels based solely on consideration of these non-binding taste and odor requirements.

For waters designated as MUN, the Basin Plan specifies that, at a minimum, waters shall not contain concentrations of constituents that exceed MCLs prescribed by the California Code of Regulations Title 22 (CCR Title 22), which are incorporated by reference in the Basin Plan. These include secondary MCL's. The Basin Plan notes that this incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect.

- **Specific Conductance**: Relative to the effluent limitation for specific conductance, the Discharge commented that specific conductance is addressed in (CCR Title 22) Table 64449-B in terms of a range of values for recommended, upper, and short term levels, and that Section 64449 (f) specifically provides that "[f]or constituents shown on Table 64449-B, no fixed consumer acceptance levels have been established." The Discharger commented that the table describes 900 micromhos as a "recommended" level, 1,600 micromhos as an "upper" level, and 2,200 micromhos as a "short term" level, and that neither existing nor new services are required by regulation to be lower than the 1,600 micromhos "upper" level. Regional Board staff notes, however, that Section 64449 (f) (2) also states that "Constituent concentrations ranging to the Upper contaminant level are acceptable if it is neither reasonable nor feasible to provide more suitable waters." Use of the upper or short term level in this instance again shifts the burden of what is reasonable or feasible from the discharger of waste to the user of water.

- **Basin Plan Objectives**: The Discharger commented that the existing arsenic and barium water quality objectives are not appropriate because their original adoption in 1975 was essentially a clerical error and that the Board really intended to adopt a different objective. Regional Board NPDES Staff coordinated discussion of these issues with Regional Board Basin Planning Staff, and disagrees with this conclusion. The arsenic objective that was adopted by the Regional Board in 1975 was based on previous Basin Plan objectives, guidance from State Board, consideration of available technical information, consideration of existing water quality policies including Resolution 68-16, staff recommendations and stakeholder input. There is no reason to conclude that the 0.01 mg/l objective that was included in the Basin Plan in 1975 was somehow a mistake.

The situation for barium is similar to arsenic. The Delta Plan and the Interim Basin Plan included an objective of 0.1 mg/l. An Appendix to the 1975 Basin Plan included a staff recommendation to change the objective. The addendum (essentially late revisions) to the draft Basin Plan included the 0.1 mg/l barium objective. The addendum was adopted by the Regional Board in response to testimony received at the hearing and written comments. There is no evidence to support the conclusion that the 0.1 mg/l barium objective was a clerical error or a mistake.

- **Arsenic**: This proposed Order includes an average monthly effluent limitation (AMEL) for arsenic (total recoverable). The Discharger commented that the AMEL based upon the U.S. EPA's MCL is inappropriate, because the Office of Administrative Law has previously disapproved the use of U.S. EPA MCLs not specified in the Basin Plan. The Discharger further commented that the federal MCL also is not otherwise appropriate for use via the narrative chemical constituents objective.

Considering; the MUN beneficial use, the chemical constituents and toxicity objectives of the Basin Plan, information from the National Academy of Sciences, the National Drinking Water Advisory Council, the U.S. EPA Science Advisory Board, the California Office of Environmental Health Hazard Assessment, results of effluent and receiving water monitoring, and the fact that the DHS MCL must be at least as stringent as the federal MCL, the opinion of Regional Board Staff is that the 10 μg/L concentration (total recoverable) is an appropriate effluent limitation.

- **Ambient Groundwater Constituents**: The discharge consists of pumped groundwater treated via air stripping and granular activated carbon to remove VOC's, therefore the effluent retains the inorganic salts and trace metal characteristics of the groundwater. The Discharger provided comments that the constituents that the Regional Board has proposed to stringently regulate naturally occur in groundwater – they are not waste products created by human or industrial processes. The Discharger commented that as a result, these constituents are not "pollutants" as defined under the federal Clean Water Act (CWA).

The discharge from the groundwater treatment system is a point source discharge to surface water, associated with human activities that can be controlled and Regional Board staff finds that groundwater constituents that are naturally occurring may be considered pollutants subject to limitations under this proposed Order.

- **Disposal/Reuse or Treatment Alternatives**: The Discharger commented that achieving the unnecessarily stringent discharge requirements described in the proposed Orders appears infeasible. The Discharger commented that it appears that any modifications required to meet the new limits would, at a minimum, be tremendously costly and likely require the use of significant amounts of additional property than the trust has rights to use, and there does not appear to be any feasible and cost-effective alternatives available for disposition of the groundwater produced by the groundwater treatment system. The Discharger provided information regarding potential disposal options including discharge to the City of Stockton POTW, directing the treated groundwater to the Calaveras River, reuse of discharged water for landscape irrigation and groundwater recharge, and reinjection.

Staff applied the beneficial uses and associated effluent limitations considering the best available information and in accordance with the Basin Plan and CWA. With

the exception of the sanitary sewer disposal option, no other alternative or treatment costs were provided by the Discharger. This proposed Order allows the Discharge time to further pursue modification of previously considered alternatives or variations of other compliance alternatives.

- **Consideration of Multiple Factors and Broader Water Quality Concerns**: The Discharger commented that the Regional Board failed to consider the required factors contained in California Water Code (CWC) section 13241 during the process of developing the effluent limits contained in the proposed Orders, and that the Regional Board has omitted any discussion of the substantial economic costs and minimal benefits of the new proposed restrictions in the proposed Order, as well as their broader environmental impacts and indirect costs.

The Regional Board staff has considered the factors specified in CWC Section 13263, including considering the provisions of CWC Section 13241 where appropriate. This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA. Individual pollutant restrictions consist of technology-based restrictions and water quality-based effluent limitations. Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the technology-based requirements of the CWA and the applicable water quality standards for purposes of the CWA. The Regional Board must implement the CWC consistent with the CWA. The CWA precludes the consideration of costs when developing effluent limitations for NPDES permits necessary to implement water quality standards.

- **Time Schedule Order**: The Discharger commented that compliance schedules for some pollutants are improperly included in the TSO instead of the Order. Staff notes that where the Regional Board determines that it is infeasible to achieve immediate compliance with an adopted water quality objective, the Board may establish in NPDES permits a schedule of compliance. However, schedules of compliance are only authorized for those water quality objectives adopted after September 1995. The Basin Plan chemical constituents and toxicity objectives were established prior to 1995; therefore although many of the effluent limitations in this proposed Order are new, they are based on existing numeric or narrative Basin Plan standards. The proposed Time Schedule Order provides compliance schedules for pollutants where effluent limitations are based on these existing numeric or narrative Basin Plan standards.

Mgmt. Review _____
Legal Review _____